

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)

Date of mailing

(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/FI2004/000226

International filing date (day/month/year)

13.04.2004

Priority date (day/month/year)

10.04.2003

International Patent Classification (IPC) or both national classification and IPC

A23L1/30, C11C3/00, C11C3/08, C11C3/10

Applicant

RAISIO BENECOL OY

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application


2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

10.2.05 

Name and mailing address of the ISA:



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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. II Priority

1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(I) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	2-16, 20-28
	No: Claims	1, 17-19, 29
Inventive step (IS)	Yes: Claims	
	No: Claims	1-29
Industrial applicability (IA)	Yes: Claims	1-29
	No: Claims	

2. Citations and explanations

see separate sheet

ITEM V

1. The following documents (D) are referred to in this communication; the numbering will be adhered to in the rest of the procedure:

- D1: WO 01/72136 A (PROCTER & GAMBLE) 4 October 2001 (2001-10-04)
- D2: WO 03/022064 A (CARGILL INC ; KHARE ANIL B (US)) 20 March 2003 (2003-03-20)
- D3: EP-A-1 179 536 (COGNIS DEUTSCHLAND GMBH) 13 February 2002 (2002-02-13)
- D4: EP-A-1 179 535 (COGNIS DEUTSCHLAND GMBH) 13 February 2002 (2002-02-13)
- D5: WO 97/21697 A (HENKEL CORP) 19 June 1997 (1997-06-19)

2. NOVELTY OBJECTIONS

D1 describes a method for the production of a sterol fatty acid ester rich composition (98 % purity) comprising the steps: 1) combining sterols, fatty acid glycerides (esters or fatty acid alkyl esters) and esterification catalyst with hydrolysis component to produce fatty acid sterol esters and fatty acid alkyl ester 2) Purification of sterol fatty acid ester by bleaching, filtration deodorization and distillation from catalysts, formed products (glycerol and other fatty acids). It is clear that with these reaction conditions and catalysts both esterification to sterol fatty acid esters and fatty acid alkyl esters occurs (claim 11,12,16, examples 2-6, page 7 line 22- page 15 line 24). Consequently, the subject matter of claims 1,17 and 18 is considered as being not new in view of D1 (Art 33 (2) PCT).

D2 describes a method for the production of a sterol fatty acid ester rich composition comprising the steps: 1) combining sterols, fatty acid glycerides (esters) and esterification catalyst with hydrolysis component to produce fatty acid sterol esters 2) Purification of sterol fatty acid ester by bleaching, filtration deodorization and distillation from catalysts, formed products (glycerol and other fatty acids). It is clear that with these reaction conditions and catalysts both esterification to sterol fatty acid esters and fatty acid alkyl esters occurs (claim 18, example 1, page 4 line 21- page 5 line 19). Consequently, the subject matter of claims 1,17 and 18 is considered as being not new in view of D2 (Art 33 (2) PCT).

D3 describes a method for recovering sterol fatty acid esters comprising 1) adding a hydrolysis (methanol) and an alkylating component to the mixture of sterol fatty acid ester and fatty acid glycerides to produce fatty acid alkyl ester without significant hydrolysis of the sterol fatty acid ester 2) removing excess alkylating and hydrolysis component and glycerol by washing with acid or adsorbent treatment 3) separating fatty acid alkyl esters from sterol fatty acid ester by deodorisation- distillation (claim 1, examples 1-6, column 1 line 50- column 2 lines 15, 25-38, column 4 lines 15-24, 47-59, column 5 line 24- column 7 line 21). Consequently, the subject matter of claims 19 and 29 is considered as being not new in view of D3 (Art 33 (2) PCT).
20-28

D4 describes a method for recovering sterol fatty acid esters comprising 1) adding a hydrolysis (methanol) and an alkylating component to the mixture of sterol fatty acid ester and fatty acid glycerides to produce fatty acid alkyl ester without significant hydrolysis of the sterol fatty acid ester 2) removing excess alkylating and hydrolysis component and glycerol by washing with acid or adsorbent treatment 3) separating fatty acid alkyl esters from sterol fatty acid ester by deodorisation- distillation (claim 1, example 1, column 2 paragraphs 6,7, column 3 paragraph 9- column 5 paragraph 22). Consequently, the subject matter of claims 19 and 29 is considered as being not new in view of D4 (Art 33 (2) PCT).

D5 describes a method for recovering sterol fatty acid esters comprising 1) adding a hydrolysis (methanol) and an alkylating component (KOH) to the mixture of sterol fatty acid ester and fatty acid glycerides to produce fatty acid alkyl ester without significant hydrolysis of the sterol fatty acid ester 2) removing excess alkylating and hydrolysis component and glycerol by washing with acid or adsorbent treatment 3) separating fatty acid alkyl esters from sterol fatty acid ester by deodorisation- distillation (claims 1,5-8,16, page 5 line 19- page 6 line 17, page 7 line 15- page 8 line 32). Consequently, the subject matter of claims 19 and 29 is considered as being not new in view of D5 (Art 33 (2) PCT).

3. INVENTIVE STEP OBJECTIONS

Dependent claims 2-16, 20-28 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty or inventive step, the reasons being as follows:

The features of dependent claims 2-16, 20-28 have already been employed for the same purpose (see documents D1,D2 for claims 2-16 and D3-D5 for claims 20-28). It would therefore be obvious to the person skilled in the art, to apply these features with corresponding effect. Consequently, the subject matter of claims 2-16, 20-28 is considered as being not inventive in view of D1-D5 (Art 33(3) PCT).

None of the claimed compositions, uses or methods are considered to be inventive in view of D1-D5 (Art 33(3) PCT). Having regard to the claimed compositions, uses or methods and the prior art known (D1-D5), it is considered that the man skilled in the art would regard these compositions, uses or methods of the present invention (as far as novel) as an obvious alternative to those known. Therefore, unless an unexpected effect for the present compositions, uses or methods (as far as novel) over the prior art disclosure from D1-D5 can be demonstrated, these compositions, uses or methods do not fulfill the requirements of Art 33(3) PCT.